**Wetland Wonders**

**Name:\_\_\_\_\_\_\_\_\_\_\_**

Future Scientists, we have discussed how wetlands are areas where the soil is wet for all or most of the year. Wetland areas drain slowly and are important parts of ecosystems because they capture, store and slowly release water to surrounding areas. When wetlands are destroyed this can cause flooding in some areas and drought in others. This creates a loss in habitat for living organisms.

**Question**: A developer wants to put a road through the middle of a wetland that is home to a variety of plants and animals. Can you come up with a solution that will help preserve wetland habitat?

**Hypothesis**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**Materials:**

Water, food colouring, plastic bags, aluminum pans, modelling clay, beaker, graduated cylinder, sponges, modelling clay, scissors, bucket

**Procedure:** (Refer to pg. 26 in your textbook)

1. Make sure there are a couple of holes the size of a dime at the bottom near one end of the baking pan.
2. Raise one end of baking pan 2 cm high using modelling clay. Put the end of the baking pan with the holes just over the ledge of the table. Put another baking pan beneath, on a chair to catch the water.
3. Pour 250 ml of water at the top end of the pan and time how long it takes for the water to drain into the pan below. Record data in the table.
4. Now put in one sponge in the pan and pour in 250 ml of water and record time to drain. Record the time and amount of water collected in the second pan.
5. Repeat step 4, adding one more sponge each trial.
6. When pan is filled with sponges, create a road with modelling clay across the middle of the baking pan. Pour 250ml of water and observe what happens.

**Data and Observations:**

|  |  |  |
| --- | --- | --- |
| Number of Sponges | Time to drain through | Amount of water collected |
| 0 |  |  |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |
| 4 |  |  |

**Analysis Questions:**

1. Describe how wetlands are like a sponge.
2. What happens when wetlands are paved over?
3. Describe what happened to your wetland when a road was put through the middle of it

**Conclusion:**

How can an alternative road be designed that would still allow the developer to get through the wetland, but would still protect the wetland habitat?